
NAVFAC IGS-10400 (MAY 2002)

Preparing Activity: LANTNAVFACENGCOM Based on NFGS-10400B

ITALIAN GUIDE SPECIFICATIONS

Use for ITALIAN projects only

SECTION 10400

IDENTIFICATION DEVICES
05/02

NOTE: This guide specification is issued by the
Atlantic Division, Naval Facilities Engineering
Command for regional use in Italy.

NOTE: This guide specification covers exterior and
interior signs. Exterior signs include the post and
panel type, panel signs and dimensional letter forms
for building application. Interior signs include
unframed plastic plaques, building directories, and
pressure sensitive letters for application on
building surfaces such as glass and doors. This
section is not intended to include entirely custom
fabricated system.

NOTE: On the drawings, show:

1. Locations and configurations of signs.
2. Message texts, lettering and spacing.
Coordinate plaque size with letter size (especially
in width).
3. Mounting details and dimensions.
4. Direction of arrows.

Comments and suggestion on this specification are
welcome and should be directed to the technical
proponent of the specification. A listing of _

technical proponents, including their organization designation and telephone number, is on the Internet.

Use of electronic communication is encouraged.

Brackets are used in the text to indicate designer choices or locations where text must be supplied by the designer.

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

EUROPEAN COMMITTEE FOR STANDARDIZATION (CEN)

CEN EN 288-1	(1992) Specification and Approval of Welding Procedures for Metallic Materials - Part 1: General Use for Fusion Welding, Including Amendment A1: 1997
CEN EN 288-2	(1992) Specification and Approval of Welding Procedures for Metallic Materials - Part 2: Welding Procedure Specification for Arc Welding
CEN EN 288-3	(1992) Specification and Approval of Welding Procedures for Metallic Materials - Part 3: Welding Procedure Test for the ARC Welding of Steels
CEN EN 485-2	(1994) Aluminum and Aluminum Alloys - Sheets, Strip and Plate - Part 2: Mechanical Properties
CEN EN 572-1	(1994) Glass in Building - Basic Soda Lime Silicate Glass Products - Part 1: Definitions and General Physical and Mechanical Properties
CEN EN 755-4	(1995) Aluminum and Aluminum Alloys - Extruded Rod/Bar, Tube and Profiles - Part 4: Square Bars, Tolerances on Dimensions and Form
CEN EN 10088-1	(1995) Stainless Steels - Part 1: List of Stainless Steels

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION (ISO)

ISO 888	(1976) Bolts, Screws and Studs - Nominal Lengths, and Thread Lengths for General Purpose Bolts
ISO 1461	(1999) Hot Dip Galvanized Coatings on Fabricated Iron and Steel Articles - Specifications and Test Method
ISO 3522	(1984) Cast Aluminum Alloys - Chemical Composition and Mechanical Properties
ISO 8992	(1986) Fasteners - General Requirements for Bolts, Screws, Studs and Nuts

1.2 SUBMITTALS

NOTE: Submittals must be limited to those necessary for adequate quality control. The importance of an item in the project should be one of the primary factors in determining if a submittal for the item is required.

A "G" following a submittal item indicates that the submittal requires Government approval. Some submittals are already marked with a "G". Only delete an existing "G" if the submittal item is not complex and can be reviewed through the Contractor's Quality Control system. Only add a "G" if the submittal is sufficiently important or complex in context of the project.

For submittals requiring Government approval on Army projects, a code of up to three characters within the submittal tags may be used following the "G" designation to indicate the approving authority. Recommended codes for Army projects are "RE" for Resident Engineer approval, "ED" for Engineering approval, and "AE" for Architect-Engineer approval. Codes following the "G" typically are not used for Navy projects.

Submittal items not designated with a "G" are considered as being for information only for Army projects and for Contractor Quality Control approval for Navy projects.

Submit the following in accordance with section entitled "Submittal Procedures."

SD-02 Shop Drawings

Exterior post and panel sign; G

Exterior building identification signs; G

Interior room and direction plaque signs; G

Building directories; G

Schedules

Submit complete detail drawings, templates, erection and installation details for products listed below. Indicate dimensions, construction details, reinforcement, anchorage, and installation with relation to the building construction.

SD-03 Product Data

Exterior post and panel signs

Exterior building identification sign

Interior room and direction plaque signs

Building directories

SD-04 Samples

**NOTE: Include items as appropriate. Consider using
manufacturer's catalog data in lieu of samples.**

Exterior post and panel signs G

Exterior building identification sign G

Interior room door, [direction] plaque signs G

Cutout letters for illuminated sign G

Take samples from manufacturer's stock complete as required for installation in the structure. Samples may be installed in the work, provided each sample is clearly identified and its location recorded.

1.2.1 Requirements for Schedules

Submit complete sign schedule by sign type, location, and message for each sign type.

1.3 EXTRA STOCK

[Provide [_____] blank plaques of each color and size.] [Provide [_____] pressure sensitive letters in each color and size.] [Provide [_____] blank changeable message strips.]

PART 2 PRODUCTS

2.1 MANUFACTURERS

2.1.1 The following Manufacturers make products that comply with this specification:

- a. SEBERG S.r.l.
Via M. Buonarrodi, 40
24020 - Gorle (Bergamo)
Tel. 035/203098
Fax 035/203098
- b. CICRESPI S.p.A.
Via Trieste, 11
20060 Liscate (Milano)
Tel. 02/95754259
Fax 02/9587203

2.2 ALUMINUM ALLOY PRODUCTS

NOTE: Base product selections shall be based on
esthetic values, appearance, and cost. Delete
alternate requirements where they occur. Edit this
paragraph to include only aluminum and finishes.

Sheet or plate, CEN EN 485-2, for extrusions and for castings, as
applicable. Provide aluminum extrusions at least 3 millimeters thick and
aluminum plate or sheet at least 1.2 millimeters thick.

2.2.1 Aluminum Finishes

NOTE: Base product selections on esthetic values,
appearance, and cost. Delete alternate requirements
where they occur. Edit this paragraph to include
only aluminum types and finishes.

Provide exposed aluminum surfaces [mill finished] [factory finished with
[anodic coating] [or] [organic coating]].

2.2.1.1 Anodic Coating

NOTE: Anodic coating is a surface finish by
electrolitic process which thickens aluminum's
natural oxide film substantially increasing its
resistance to weathering and corrosion.

Clean and provide exposed aluminum surfaces with a factory finished
anodized coating.

a. Clear (natural) designation.

2.2.1.2 Organic Coating

Exposed aluminum surfaces shall be factory finished with high performance organic coating. Exposed aluminum surfaces shall be thoroughly cleaned, primed, and given a backed enamel finish, with total dry film thickness not less than 30 microns. The finish color shall be as approved by Contracting Officer.

NOTE: Organic coating is a surface finish by paint,
lacquer, enamel or film in which the principal
ingredients are derived from animal or vegetable
matter or from some compound of carbon.

2.3 STEEL PRODUCTS

CEN EN 10088-1, for sheet and plates.

2.4 CAST METAL

Fabricate with square corners, flat faces, and accurate profiles. Remove burrs and rough spots. Belt polish faces to uniform high luster finish. File sides smooth with tool marks removed by fine abrasive grain air blasting or other suitable method.

2.4.1 Cast Aluminum

ISO 3522 in accordance with the manufacturer's instructions and recommendations .

2.4.2 Cast Brass

Composition Bronze or Ounce Metal Castings in accordance with the manufacturer's instructions and recommendations.

2.5 GLASS

Flat glass in accordance with CEN EN 572-1.

2.6 FIBER-REINFORCED POLYESTER (FRP)

2.6.1 Glass Fiber Reinforced Polyester Plastic Panels

Polyester resin composition: thermosetting styrenated and acrylated polyester resin composed of polymeric esters. Polyester additives shall contain low smoke or high fire retardancy stabilizers, reinforcing fiber or filaments.

Grade: Weather resistant. [General purpose]

Weight: 1.2 [___] [3.7] kg/m² [as indicated].
Thickness: 0.76 [___][3.2] mm [as indicated].

[Physical Properties:
Water absorption: 1% maximum.
Tensile strength: 48.3 MPa minimum.
Flexural strength: 96.6 MPa minimum.
Coefficient of linear thermal expansion: 4.5 cm/cm/°C min.]

Color: as indicated.

2.7 ACRYLIC SHEET

In accordance with the manufacturer's instructions and recommendations.

2.7.1 Poly(Methyl Methacrylate) Acrylic Plastic Sheet. [(general purpose applications).]

Methacrylate sheet: composed of polymerized acrylic monomers of which at least 80 percent shall be methyl methacrylate.

Category:
[manufactured by the cell-casting process; best optical- quality sheet product.]
[manufactured by the continuous casting method].
[manufactured by conventional extrusion process].

Finish:
Smooth or polished. [Patterned, including textures and frosting].
[Abrasion resistant coated].

Type:
Ultraviolet absorbing. [Ultraviolet Transmitting].

Sheets shall be free from warpage, cracks, scratches, blisters, voids, foreign matter, die lines, and other defects which may affect appearance or serviceability.

2.8 POLYCARBONATE SHEET

In accordance with the manufacturer's instructions and recommendations.

2.9 VINYL SHEETING FOR GRAPHICS

Minimum 0.075 mm film thickness. Provide pre-coated pressure sensitive adhesive backing or positionable pressure sensitive adhesive backing.

2.10 EXPOSED ANCHORS AND FASTENERS

Compatible with sign material to which applied with matching color and finish. Protect against galvanic action or chemical interaction of adhesives. Provide in accordance with ISO 8992.

2.10.1 Expansion Shields

Shields shall be recessed and [unless otherwise indicated,] not less than 65 mm into concrete or masonry.

2.10.2 Lag Screws and Bolts

ISO 888.

2.10.3 Bolts, Nuts, Studs, and Rivets

ISO 888.

2.10.4 Powder Driven Fasteners

When permitted by ISO 8992. Follow safety provisions as per manufacturer's instructions.

2.10.5 Screws

ISO 888.

2.11 FABRICATION AND MANUFACTURE

2.11.1 Workmanship

For bolts and screws, drill or punch holes to produce clean, true lines and surfaces. Weld to structural steel in accordance with CEN EN 288-1, CEN EN 288-2, and CEN EN 288-3 along entire area of contact. Grind exposed welds smooth. Exposed surfaces of work shall have a smooth finish and exposed riveting shall be flush. Conceal fastenings where practicable. Items specified to be galvanized shall be hot-dip galvanized after fabrication in accordance with ISO 1461. Form joints exposed to weather to exclude water. Include drainage and weep holes to prevent build-up of condensation.

2.11.2 Dissimilar Materials

Where dissimilar metals are in contact, or where aluminum is in contact with concrete, mortar, masonry, wet or pressure-treated wood, or absorptive materials subject to wetting, protect surfaces with two coats of epoxy primer at 0.075 mm dry film thickness (DFT) each coat and finish with one coat of latex paint at 0.050 mm DFT to prevent galvanic or corrosive action.

2.11.3 Shop Painting

**NOTE: If signs are to have extensive metal parts or
are to be anchored to structural steel, include this
paragraph. Otherwise edit as appropriate.**

Apply one coat of latex primer [, or apply an approved rust-resisting treatment and primer in accordance with manufacturer's standard practice] to surfaces of miscellaneous metal work, except non-ferrous metal,

corrosion-resisting steel, and zinc-coated work. Do not paint surfaces of items to be embedded in concrete. Upon completion of work, thoroughly recoat damaged surfaces. Prime coat steelwork immediately after cleaning.

2.12 EXTERIOR POST AND PANEL SIGNS

NOTE: All project signage should be designed in accordance with the Activity's Base Exterior Architectural Guide or Base Signage Guide. Check with activity concerning standards on safety regulatory signs (i.e. fire and radiation).

2.12.1 Posts

NOTE: Use minimum 175 mm sections with illuminated signs to allow space for lighting and ballast.

Provide one-piece extruded aluminum posts [[_____] by [_____] mm] with minimum 3 mm wall thickness. Design post extrusion to accept panel framing system described herein. Design posts to permit attachment of panel framing system without exposed fasteners. Provide cap for each post, matching design, material and color of the post.

2.12.2 Panel Framing System

Provide panel framing consisting of aluminum extrusions and interlocking track components designed to interlock with posts with concealed fasteners. [Design top or bottom framing members to be removable to permit [access to electrical equipment] [and] [panel removal].]

2.12.3 Panels

NOTE: If panels are to be non-removable, use aluminum panels to permit welding to frame. Show sizes of modular panels on drawings. Select the applicable paragraph(s) from the following.

2.12.3.1 Non-Modular Message Panels

Provide message panels in sizes [as indicated]. [Fabricate of minimum [2.25 mm] [aluminum] [3 mm] [aluminum] [3 mm] [acrylic] [3 mm] fiber-reinforced polyester (FRP)]. [Design panels to be removable.] [Heliarc weld panel to framing system.]

2.12.3.2 Modular Message Panels

Provide modular message panels in sizes [as indicated] [_____] . Fabricate of rectangular extruded tubular aluminum with minimum 3 mm wall thickness.

Design panels to be removable and interchangeable.

2.12.4 Finishes

NOTE: Enamel finish is more economical than
anodized.

2.12.4.1 Post Finish

[Baked enamel] [anodized] in accordance with the manufacturer's
instructions.

2.12.4.2 Panel Framing System Finish

[Baked enamel] [anodized].

2.12.4.3 Panel Finish

[Baked enamel] [anodized] [gloss] [matte].

2.12.5 Colors

- a. Posts: [_____] [as indicated].
- b. Panel framing: [_____] [as indicated].
- c. Panel: [_____] [as indicated].

2.12.6 Mounting

NOTE: Show details of sign foundations on drawings.
Include provision for concealed entry of electric
service to internally illuminated signs through
foundation to post.

[Provide permanent mounting by embedding posts in concrete foundation as
shown.] [Provide removable mounting to a steel plate embedded in concrete
foundation as shown.] [Provide removable mounting to a steel sleeve
embedded in concrete as shown.] Concrete is specified in Section [03300,
"Cast-In-Place Concrete"].

2.12.7 Illumination

NOTE: Coordinate illumination with Division 16,
"Electrical," and available electric service.

Provide concealed lighting within panel framing members. Provide slimline
lamps, [230] [_____] volts, 50 Hz, single phase. Provide ballast

integrally mounted, high power factor and rated for use up to minus 29 degrees C ambient starting temperature. Provide ballast and wiring within the sign in metal raceways. Provide CE listed electrical equipment. Evenly distribute illumination so that graphics glow with a minimum of halation. Provide a switch on the interior of the sign to turn off power in sign. Provide a switch readily accessible when sign is open. Electrical service and installation is specified in Section 16520, "Exterior Lighting."

2.12.8 [Projected Letters]

NOTE: Choose this paragraph or one of the paragraphs below through paragraph entitled "FRP Embedded Letters."

Provide [cast] [fabricated] aluminum letters, [6] [13] [_____] mm thick, internally fastened to message panel. [Project letters [_____] mm from face of panel.]]

2.12.9 [Applied Letters]

Provide pressure sensitive die-cut vinyl letters [with reflecting surface]. Hand-cut letters are not acceptable.]

2.12.10 [Silkscreened Images]

Apply message to panel using the silkscreen process. Execute silkscreened images with photo screens prepared from original art. No handcut screens will be accepted. Original art shall be defined as artwork that is a first generation reproduction of the specified art. Clean edges and corners. Rounded corners, cut or ragged edges, edge build-up, bleeding or surface pinholes will not be accepted.]

2.12.11 [Cutout Recessed Letters]

Cut out message letters from panel. Back up panel with [2 mm] FRP [3 mm] acrylic where cutouts occur.]

2.12.12 [Cutout Projected Letters]

Cut out message from panel. Fit [3] [6] [13] mm thick acrylic letters through cutouts and chemically weld message to 3 mm acrylic backup sheet.]

2.12.13 [FRP Embedded Letters]

Embed message in FRP sheet and completely cover with thermosetting polyester resin. Embed message minimum 0.80 mm. Process sheets in one piece, in one process, to prevent delamination.]

2.12.14 [Panel Messages]

NOTE: When the message content, size, and colors

are shown on drawings or in a message schedule, use this paragraph. Provide color contrast between background and message for readability. Consider viewing distance when sizing message for readability. Choose typeface consistent with total signage system and Activity standards.

Message content shall be as [indicated] [and] [scheduled].

- a. Typeface: [Helvetica Medium] [as indicated] [_____].
- b. Type Size: [_____] [as indicated].
- c. Color: [RAL_____] [as indicated].

2.13 PRESSURE SENSITIVE LETTERS

NOTE: Use pressure sensitive letters for direct application to building interior surfaces such as glass and doors. Be sure surface of material will accept adhesion of letters. Show locations, message content, sizes, and colors on drawings or in a message schedule.

Ensure that edges and corners of finished letterforms and graphics are true and clean. Do not use letterforms and graphics with rounded positive or negative corners, nicked, cut, or ragged edges.

2.13.1 Typeface

[Helvetica medium] [_____].

2.13.2 Size

[_____] [As indicated].

2.13.3 Color

[RAL_____] [As indicated].

2.14 DIMENSIONAL LETTERS

NOTE: Dimensional letters are for direct application to exterior building surfaces.

2.14.1 Fabrication

Fabricate letters from [cast aluminum] [cast bronze] [2.25 mm] [aluminum sheet], [3 mm] [aluminum sheet], [extruded aluminum]. Clean letters by

chemical etching or clean ultrasonically in a special degreasing bath using high frequency sound waves. Package letters to protect them until installation.

2.14.2 Typeface

Helvetica medium.

- a. Character Proportion: Letters of numbers shall have a width-to-height ratio between 3:5 and 1:1 and a stroke width-to-height ratio between 1:5 and 1:10.

2.14.3 Size

[_____] [As indicated].

2.14.4 Color

[RAL_____] [As indicated].

2.14.5 Mounting

Threaded studs at least 5 mm in diameter, secured in quick-setting mortar, for concealed anchorage. Project letters 13 mm from the building line by stud spacer sleeves. Letters, studs, and sleeves shall be of the same material. Provide mounting and templates.

2.14.6 Finish

Provide [anodized] [baked enamel] [_____] finish. Color: [_____] [as indicated].

2.15 BUILDING IDENTIFICATION SIGN WITH BUILDING NUMBER

600 x 600 mm aluminum sign panel, 3 mm thick with etched zinc characters. Zinc characters and graphics shall consist of 3 mm thick zinc alloy #2450 with a lightly sandblasted, primed and painted surface. Zinc shall be photo-chemically "deep-etched" to allow graphics to be raised 0.8 mm above background. Graphics consist of copy, Grade II Braille and sign border. Plaque design shall be as shown on drawings. Borders and faces shall have sharp hand tooled edges. The entire plaque shall receive a clear matte top coat for extra protection.

2.15.1 Graphic Application

Graphic styles shall be as shown on the drawings. Graphics shall be roller-coated with a contrasting color. Characters shall be raised 0.8 mm minimum. Building number characters: 75 mm high. Building name characters: 40 mm high.

2.15.2 Color

Color shall be as indicated on the finish schedule.

2.16 INTERIOR SIGNAGE, ACRYLIC

Interior acrylic plaque signs, 200 mm by 200 mm size with square corners and mounting plates and concealed fasteners for vertical surface mounting. 130 mm height international pictograph symbols; 16 mm high letters and 25 mm high letters as indicated on drawings. Inserts, where required, fabricated from two layers on 1.5 millimeters plastic for a total thickness of 3 millimeters. Colors: impregnated, not surface applied; colorfast, non-fading and non-peeling. All colors shall be as indicated.

2.17 INTERIOR SIGNAGE, PHOTOPOLYMER

Photopolymer signs, 200 mm by 200 mm size with square corners and mounting plates and concealed fasteners for vertical surface mounting. Sign panels shall consist of a light sensitive coating (photopolymer) on a polyester backing; back photopolymer with 3 millimeter acrylic. Graphics shall be photo-mechanically etched from original artwork and Braille. Graphic relief shall be raised 0.8 millimeters from background. Graphics to be integral with background. Individually applied, hand spaced graphics are not acceptable. Edges shall be sanded smooth and painted to match background.

2.17.1 Painting/Color

All surfaces of photopolymer sign panels shall be painted with a matte acrylic enamel and sealed with a matte finish polyurethane sealer. All colors shall be as indicated.

2.17.2 Graphics/Text

International graphic symbols shall be as indicated on drawings; 130 mm height; text height 16 mm and 25 mm as indicated on drawings. Additional text height as noted on drawings.

2.18 INTERIOR PLAQUE SIGNS

NOTE: These are typical interior directional and room identification signs that identify permanent rooms and spaces, signs that direct people to permanent spaces, and overhead signs. Restroom signs, room numbers, stairwell identification, and other signs of this type are also covered.

2.18.1 Modular Changeable Message Strips

NOTE: Where conditions require frequent changes, use laminated plaques to allow slots for message replacement. This type also allows for two-message signs such as "occupied-vacant." Show details of requirements on drawings.

Provide individual message strips [as indicated] to permit removal, change, and reinsertion. If changeable message strips are shown behind a clear surface cover, provide optical corrections to prevent distortion.

2.18.2 Graphics Application

2.18.2.1 Raised Letters

NOTE: Use raised letters for identification signs to allow building accessibility to the blind. See identification devices manufacturer's for requirements.

- a. Chemically weld 0.80 mm thick acrylic message letters to front surface of plaque CEN EN 288-1, CEN EN 288-2, and CEN EN 288-3.
- b. Raised or Indented Characters or Symbols: Raised or incised 0.80 mm minimum and at least 16 mm high but no higher than 50 mm with a stroke width of at least 6 mm.
- c. Mounting Location and Height: On interior locate along side door on latch side mounted between 1370 and 1670 mm above the bottom of the door. See CEN EN 288-1, CEN EN 288-2, and CEN EN 288-3.

2.18.2.2 Braille

Provide Braille message strip that is integral with the plaque sign.

2.18.3 [Plaque Messages]

NOTE: Choose typeface consistent with total signage system and Activity standards. Show message content, sizes, and colors on drawings or in a message schedule.

Message content shall be as [indicated] [and] [scheduled].

- a. Typeface: [Helvetica Medium] [as indicated] [_____].
- b. Type size: [_____] [as indicated].
- c. Background color: [_____] [as indicated].
- d. Message color: [_____] [as indicated].

2.18.4 Mounting

NOTE: Choose the applicable paragraph(s) from the following.

2.18.4.1 Magnetic Tape

NOTE: Tape can be used alone for application to metal surfaces.

Provide thin magnetic material on back of plaque to permit magnetic attachment to steel surfaces. [Provide pressure-sensitive backed thin sheet plate slightly smaller than sign.]

2.18.4.2 Shim Plate

NOTE: Use shim plate when applying signs to irregular surfaces.

Provide [2.25 mm] [3] mm aluminum shim plate with predrilled, countersunk holes to allow screw application to mounting surface. Provide mounting screws.

2.18.4.3 Vinyl Tape

Provide [one] [2] [3] mm foam tape with adhesive on both sides in sufficient quantity to securely mount plaque to substrate.

2.18.4.4 Adhesive

Provide sufficient quantities of manufacturer's recommended adhesive to adhere signs to substrate.

2.18.4.5 Mechanical Fasteners

Provide countersunk mounting holes in plaques and mounting screws.

2.19 BUILDING DIRECTORIES

NOTE: The directories specified are standard changeable letters in which the letters have flanges which fit into grooves. Message strip is also available. Cork board can be substituted for the grooved backing to provide bulletin boards. Pressure sensitive lettering is available in sets of upper case, lower case, and numerals or as individual characters.

2.19.1 Frame and Trim

Aluminum CEN EN 755-4 finish [____], color [____].

2.19.2 Header Plates

[Background metal to match frame with raised letters.] [Acrylic, with raised acrylic letters.]

2.19.3 Doors

2.19.3.1 Door Glazing

[CEN EN 572-1, minimum 3 mm thick.] [[5 mm] clear acrylic sheet.] [[5 mm] clear polycarbonate sheet.]

2.19.3.2 Swinging Doors

- a. Door frame of same material and finish as surrounding frame;
- b. Mitered [reinforced] [welded] corners, and concealed fasteners;
- c. [Concealed pivot] [full length piano] hinges in finish to match frames and trim; and
- d. Set glazing in frame with resilient glazing channels.

2.19.3.3 Door Locks

Manufacturer's standard, with locks keyed alike.

2.19.4 Illuminated Units

Concealed internal [top] [back] lighting unit with rapid start fluorescent tube lamp, internal wiring, and lead out wire for electrical connection. [Provide CE approved electrical equipment] [Provide Light Emitting Diodes (LED)].

2.19.5 Fabrication

Assemble frames and trim with corners [reinforced] [welded] and mitered to hairline fit, with no exposed fasteners. Provide removable [plywood] [fiber-board] back with [wool felt] [vinyl] [cork board] covering backgrooved 6 mm on center to receive flanged letters.

2.19.6 Changeable Letters

- a. Letters: [_____] style, [_____] size.
- b. Quantity: [_____].
- c. Color: [_____].

2.19.7 Installation

Attach directories to supporting structures with concealed fasteners in accordance with manufacturer's instructions.

PART 3 EXECUTION

3.1 EXAMINATION

Examine condition of locations and surfaces on which signs will be installed. Do not proceed with installation until defects or errors which would result in poor installation have been corrected.

3.2 INSTALLATION

Install identification signs at locations as indicated. Ensure that signs are installed plumb and true, at mounting heights indicated, and by method shown or specified. Do not install signs on doors or other surfaces until finishes on such surfaces have been applied.

3.2.1 Anchorage

Provide anchorage to ensure that signs are fastened securely in place. Anchorage not otherwise specified or indicated shall include slotted inserts, expansion shields, and powder-driven fasteners when approved for concrete; toggle bolts and through bolts for masonry; machine and carriage bolts for steel; through bolts, lag bolts, and screws for wood. Provide slotted inserts of types required to engage with anchors.

3.3 PROTECTION

Protect work and adjacent work and materials against damage during progress of work until completion. Wrap finished work with paper, polyethylene film, or strippable waterproof tape for shipment and storage and protect from damage during installation.

3.4 ADJUST AND CLEAN

Repair damage to signs incurred during installation. Replace signs which cannot be repaired to new condition. Clean glass, frames, and other sign surfaces, adjust hardware [and electrical equipment] for proper operation.

-- End of Section --